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Total No. of Questions : 09]

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Paper ID [MC205]

(Please fill this Paper ID in OMR Sheet)

MCA (Sem. - 2nd)

INTRODUCTION TO MICROPROCESSOR (MCA - 205) (N2)

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Attempt any **One** question from each Sections - A, B, C, & D.
2) Section - E is **Compulsory**.

Section - A

(1 × 10 = 10)

Q1) (a) Discuss the chronological development of micro-processor.

(b) Explain the architecture of 8085 micro-processor with functional block diagram.

Q2) (a) Write short note an Machine cycles of 8085.

(b) Explain opcode fetch Machine cycle of micro-processor 8085 with the help of timing diagram.

Section - B

(1 × 10 = 10)

Q3) Explain in detail real and protected mode of 8086.

Q4) (a) Draw the PIN diagram of 8284. Explain each pin.

(b) Draw the inter facing diagram of 8284 with 8086.

Section - C

(1 × 10 = 10)

Q5) (a) What are broad class of instruction set of 8086. Explain them with an example each.

(b) Explain what happen when all 2000H and DADSP instruction executed.

Q6) Write the functions of following instructions.

(a) (i) DAA (ii) CLD (iii) MOVSB (iv) LAHF (v) TEST.

(b) Define a J-state.

Section - D

(1 × 10 = 10)

Q7) (a) What is DMA data transfer scheme.

(b) Discuss the function of DMA data controller 8237 in detail.

Q8) (a) What is interrupt controller? Discuss.

(b) Discuss the architecture of 80 x 87 in detail.

Section - E

(10 × 2 = 20)

Q9)

a) Calculate the time required to execute the following two instructions if the system clock frequency is 3.4MHz.
MOV C,B (5T states)
JMP 2050H (10T states)

b) What are the uses of interrupt controller?

c) How is a RISC processor different from that of a CSIC processor?

d) Discuss fetch and execute operation?

e) If the memory chip size is 256 × 1 bits, how many chips are required to make up 1k (1024) bytes of memory.

f) How does the CPU identify between 8 bit and 16-bit operations?

g) What is the function of a DMA controller?

h) Differentiate between a stack and stack pointer.

i) Justify the statement, "programs in 8086 microprocessor are reloctable".

j) Distinguish between LEA and MOV instructions.

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